DOCUMENT RESUME

ED 405 799 IR 017 830

TITLE	North Carolina Computer Skills Curriculum Lesson Plans, K-8: Societal Impact.
INSTITUTION	North Carolina State Dept. of Public Instruction, Raleigh.
PUB DATE	95
NOTE	43p.
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Class Activities; Communication Skills; *Computer Literacy; Definitions; Educational Objectives; Elementary Education; Information Skills; Information Technology; Instructional Materials; Instructional Program Divisions; Kindergarten; Learning Activities; Lesson Plans; Public Schools; *Social Change; Social Studies; State Curriculum Guides; Worksheets
IDENTIFIERS	Computer Use; *North Carolina

ABSTRACT

This document contains computer skills curriculum for the public schools of North Carolina; these lesson plans are designed specifically for grades K-8 and focus on the societal impact of technology. The lesson plans for each grade include a list of materials needed, lesson time, teacher preparation activities, outline of activities, and instructional measure. In addition, a list of objectives addressed by the lesson outline social studies, communication, information, and computer skills. Worksheets and other support materials are also included. (AEF)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 405 799

Societal Impact

Computer Skills Curriculum

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

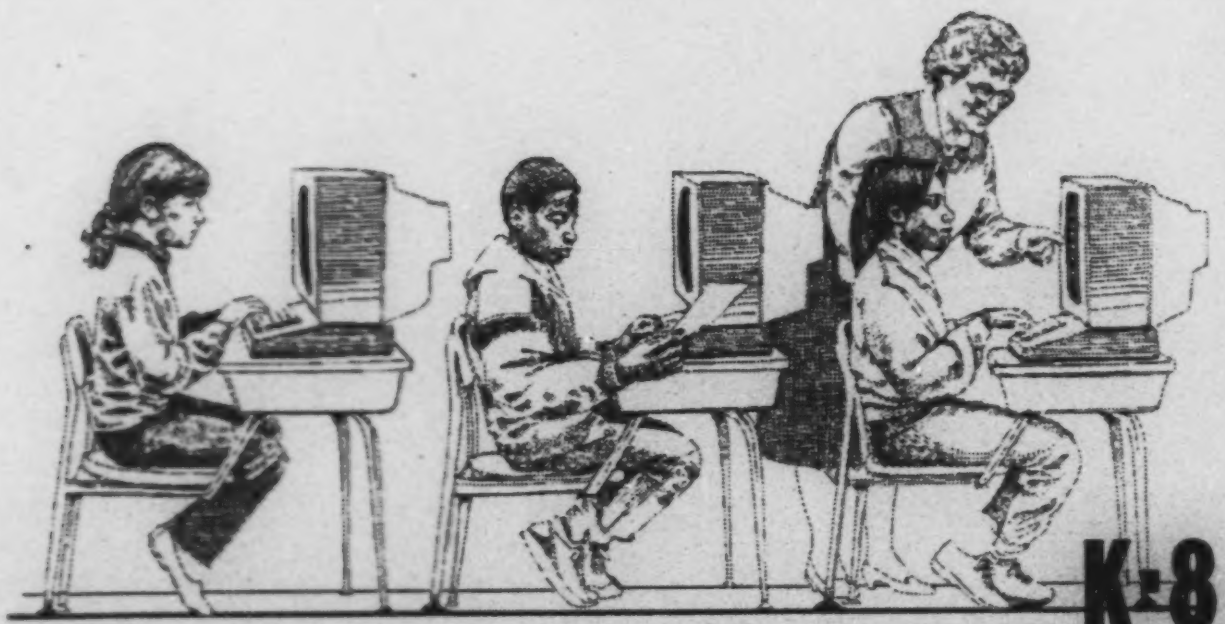
- ☐ This document has been reproduced as received from the person or organization originating it.
- ☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

E. Brumback

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."



K-8

IR017830

INSTRUCTIONAL TECHNOLOGIES DIVISION
PUBLIC SCHOOLS OF NORTH CAROLINA
301 NORTH WILMINGTON STREET
RALEIGH, NC 27601-2825
FAX #: 919-733-6763

TITLE: NC Computer Skills Curriculum Lesson Plans

BY: Instructional Technology (formerly Computer Services Section)
Public Schools of North Carolina

DATE: 1994-1995

ISSUES
SKILLS
APPLICATION

Objectives Addressed by This Lesson

Social Studies: (Gr. K)
3.1 Describe aspects of the home environment and one's role in that environment.
4.1 Use established procedures in the classroom and school.
5.1 Recognize examples of community service.
5.2 Summarize jobs performed by community workers.
5.3 Identify relationships between community needs and community services.
6.3 Recognize changes in the classroom and school environment.
8.1 Locate and describe familiar places in home, classroom, and school settings.
8.2 Construct simple maps, models, and drawings of home, classroom, and school settings.
8.3 Analyze the functions of places in the home, the classroom, and the school.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.

Computer Skills: (Gr. K)
1.1 Identify the computer as a machine that helps people work and play.

Computer Skills Curriculum

K

Title: Find the Computer
Grade: K
Competency 1.1: Identify the computer as a machine that helps people work and play.
Measure 1.1.1: When shown pictures of banks, offices, factories, and homes, point to the computers in each picture.

Materials Needed: Pictures of computers in different settings and of people using computers; laminating materials and machine (optional); bulletin board letters and supplies.

Time: Five, fifteen minute sessions.

Activities

Pre-Activities:

Teacher Preparation

1. Develop an extensive collection of pictures from newspapers, magazines, and catalogs that depict people using computers in a variety of ways (e.g., bank, office, factory, home).
2. Laminate the pictures (optional).
3. Arrange for the media coordinator to identify and demonstrate computers used in the media center.
4. Arrange for school office personnel to identify computers and demonstrate their use.
5. Arrange for kindergarten students to observe a group using instructional software: classroom computer station where students have hands-on use of computers and software in a variety of purposes.
6. Create a bulletin board entitled FIND THE COMPUTER to be used in the daily activity.

With the Students

1. On a class trip to the media center, have the media coordinator identify computers used in the media center.
2. Visit various locations in the school, identify computers in use (e.g., cafeteria, media center, guidance office, secretary's office, SIMS office, classroom computer stations).

Activity:

1. Use the picture collection as a focal point for class discussion. Have students identify the computer in each picture and identify the location in each picture as home, school, bank, office, or factory.
2. Each day have a group of 4-5 students select a picture from the collection and identify the computer and place the picture on a bulletin board entitled FIND THE COMPUTER.
3. After all the pictures have been placed on the bulletin board, use the board as a focal point for a daily question of "Where is a computer used to help people work?" or "Where is a computer used to help people play?"

Measure

Give the students a crayon and a worksheet with pictures of computers being used for work and for play. Have the students bring their worksheet to you and mark the computer in each picture. Provide immediate reinforcement to each child.

Societal Impact

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

K

Title: WORK and PLAY
Grade: K
Competency 1.1: Identify the computer as a machine that helps people work and play.
Measure 1.1.2: When shown pictures of computers, identify whether they are being used for work or play.

Materials Needed: Use picture collection from Measure 1.1.1, Grade K.

Time: Five, fifteen minute sessions.

Activities

Pre-Activities:

Teacher Preparation

1. Modify the bulletin board entitled FIND THE COMPUTER to have two sections--WORK and PLAY.
2. Collect the picture collection from Measure 1.1.1.

With the Students

1. Lead the students in a group activity to name items in the classroom used for work and play.
2. Have students identify items and determine which category is appropriate work or play categories (e.g., work--pencil, crayon; play--ball, toys).
3. Discuss items that might be in both groups.
4. On the board, make a chart of two columns: WORK and PLAY. Have the students call out the items discussed for you to place in one or both columns.

Activity:

1. Give each student a picture from the picture collection.
2. Discuss with the students that the bulletin board has two sections--WORK and PLAY.
3. Have each student place the picture on the bulletin board in the appropriate category for the use of the computer in that picture.
4. Use the bulletin board as a focal point for a discussion on how computers help people work and play.
5. Repeat the activity several times until students are very comfortable with the concept that computers are used for work and for play.

Measure

Have each student select a picture from the picture collection and tell whether the computer is used for work or for play.

Objectives Addressed by This Lesson

Social Studies: (Gr. 1)
3.1 Describe aspects of the home environment and one's role in that environment.
4.1 Use established procedures in the classroom and school.
5.1 Recognize examples of community service.
5.2 Summarize jobs performed by community workers.
6.3 Recognize changes in the classroom and school environment.
8.1 Locate and describe familiar places in home, classroom, and school settings.
8.3 Analyze the functions of places in the home, the classroom, and the school.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.

Computer Skills: (Gr. K)
1.1 Identify the computer as a machine that helps people work and play.

Societal Impact

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum 1

Title: **Things That Can or Can Not Be Done with a Computer**
Grade: **1**
Competency 1.1: **Identify uses of technology at home and at school.**
Measure 1.1.1: **After being shown pictures of familiar activities, discuss which activities can be done with a computer.**

Objectives Addressed by This Lesson

Social Studies: (Gr. 1)
3.1 Identify social environments in homes and schools.
3.2 Compare social environments in home and school.
3.3 Describe and demonstrate appropriate behavior in various environments.
5.1 Identify and elaborate on community services.
8.1 Locate and describe familiar places in the home, classroom, and school.
8.2 Construct simple maps, models, and pictures representing home and school settings.
8.3 Identify the functions of places in homes and schools.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
2.1 The learner will identify, collect, or select information and ideas.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.

Computer Skills: (Gr. 1)
1.1 Identify uses of technology at home and at school.

Materials Needed: A large copy of the prepared chart THINGS THAT CAN OR CAN NOT BE DONE WITH A COMPUTER on the blackboard or on chart paper. Prepared set of pictures. Chart paper to list ways computers are used in the home.

Time: Five, fifteen minute sessions.

Activities:

Pre-Activities:
With the Students
1. On a visit to the media center, have students observe the computer being used and have the media coordinator identify 2 or 3 specific tasks it helps perform.
2. Visit various locations in the school to identify computers in use (e.g., cafeteria, guidance office, secretary's office, SIMS office).
3. Lead students in a discussion about "How Computers are Used in the Home" and list activities on chart paper.

Teacher Preparation
1. Arrange for students to observe and learn about how computers are used in a variety of situations (e.g., media center, cafeteria, guidance office, secretary's office, SIMS office).
2. Make a chart of THINGS THAT CAN OR CAN NOT BE DONE WITH A COMPUTER. Sample provided.
3. Collect a set of pictures depicting activities at home and school or use the prepared set.
4. Laminate pictures to make flashcards. (optional)

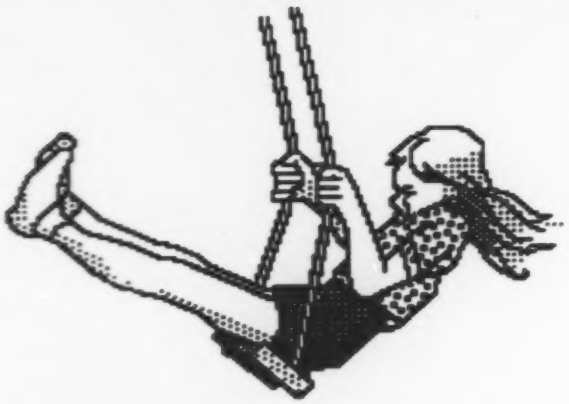
Activity:
1. Post the chart of THINGS THAT CAN OR CAN NOT BE DONE WITH A COMPUTER where all students can see it.
2. Ask each student to choose a picture from the picture collection and act it out.
3. Have the class discuss the activity and decide if it can be done by a computer.
4. As a group, match the pictures to the chart, adding new items if needed.
5. Repeat until students are comfortable with the kinds of things a computer can do.

Measure
Give each student a sheet of pictures of familiar activities to circle the activities that can be done with a computer. Ask each student to select one of the circled pictures and tell how the computer does the activity.

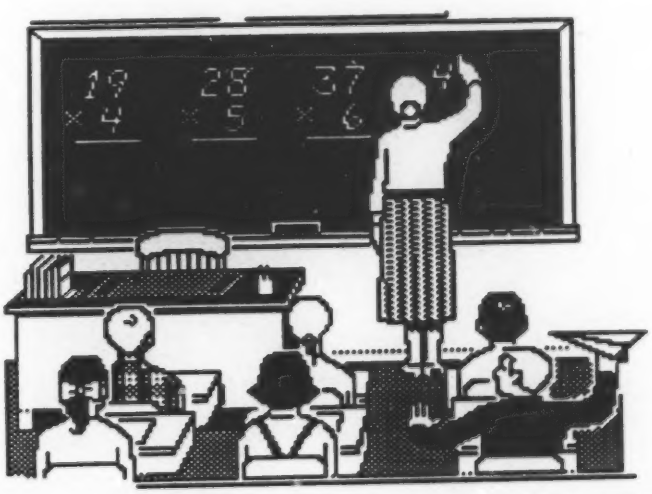
Societal Impact

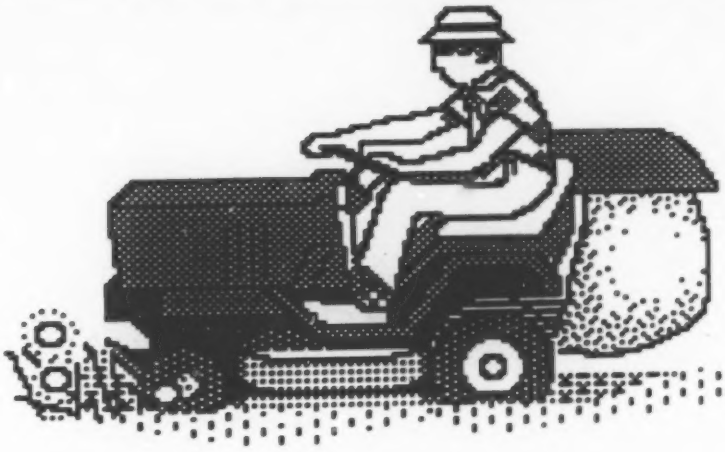
THINGS THAT A COMPUTER CAN DO	THINGS THAT A COMPUTER CAN NOT DO
Draw a pet	Eat a hamburger
Color a picture	Love a pet
Check spelling	Play in the sand
Add numbers	Run a mile
Name an object	Swing in a swing
Sing a song	Go for a swim
Play music	Ride a lawn mower
Play a game	Dribble a ball
Print words and pictures	Go Trick or Treat

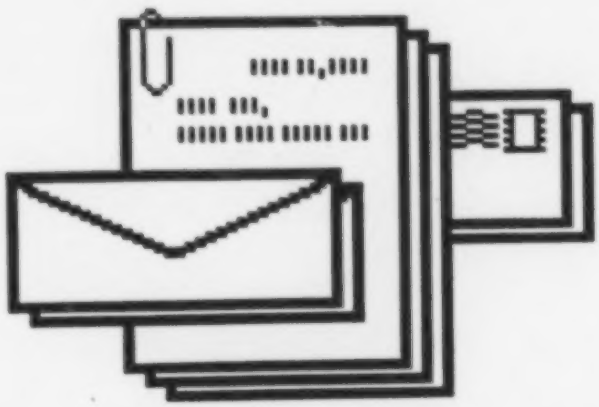
Chart (Gr. 1) 1.1.1



Trick or Treat


19
×4
28
×5
37
×6





ISSUES
SKILLS
APPLICATION

Objectives Addressed by This Lesson

Social Studies: (Gr. 1)
3.1 Identify social environments in homes and schools.
3.2 Compare social environments in home and school.
3.3 Describe and demonstrate appropriate behavior in various environments.
5.1 Identify and elaborate on community services.
8.1 Locate and describe familiar places in the home, classroom, and school.
8.2 Construct simple maps, models, and pictures representing home and school settings.
8.3 Identify the functions of places in homes and schools.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will identify, collect, or select information and ideas.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.

Computer Skills: (Gr. 1)
1.1 Identify uses of technology at home and at school.

Computer Skills Curriculum

1

Title: THINGS A COMPUTER CAN AND CAN NOT DO
Grade: 1
Competency 1.1: Identify uses of technology at home and at school.
Measure 1.1.2: Draw a picture that shows either something a computer can or cannot do.

Materials Needed: Prepared chart and flashcards of THINGS THAT CAN OR CAN NOT BE DONE WITH A COMPUTER from Measure 1.1.1, Grade 1. Drawing paper and crayons.

Time: Three, fifteen minute sessions.

Activities

Pre-Activities:

Teacher Preparation

1. Review prepared THINGS THAT CAN OR CAN NOT BE DONE WITH A COMPUTER chart.
2. Use prepared pictures or find new pictures to make flashcards.
3. Create two centers; one labelled THINGS THAT CAN BE DONE WITH A COMPUTER and one labelled THINGS THAT CAN NOT BE DONE WITH A COMPUTER. The centers could be a table area, a poster, or a box decorated as a computer.

Activity:

1. Hold up cards one at a time to engage students in a discussion. If there is any doubt about the activity in the picture, have a student pantomime the activity and then try to determine if a computer can or can not do that.
2. After all the cards have been seen, pair students and give each pair a card.
3. Explain the function of the two centers.
4. Ask students to decide in which center to place their card and then put their card there.
5. Repeat activity until students fully grasp the concept.

Measure

Given a sheet of paper and crayons or colored markers, draw a picture that shows either something a computer can or can not do.

Societal Impact

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum 2

Title: Computers Help Us Work
Grade: 2
Competency 1.1: Identify uses of technology in the community.
Measure 1.1.1: After class discussion, tell how community helpers can use computers to help them do their jobs (e.g., policeman, grocer, school principal).

Materials Needed: Pictures of people using computers in a variety of settings.

Time: Three, thirty minute sessions.

Activities

Pre-Activities:
Teacher Preparation

1. Develop a collection of pictures from newspapers, magazines, and catalogs that depict people using computers in a variety of settings.
2. Arrange for a community helper to explain how computers are used in their work to one or more classes. (optional)
3. Select a videotape that demonstrates how community helpers use computers.
4. Arrange for a tour of a community facility to see how computers are used. (optional)

Note: Discussion of past field trips could be used instead of a video, guest speaker, or tour.

Activity:

1. Have students recall where they have seen computers (e.g., grocery store scanner, doctor's office, media center check-out and search stations, video store).
2. Using a picture collection, have students discuss who uses computers and identify how they might use the computer.
3. Have a community helper present information about his/her job and emphasize how computers help in the work. Or, use a videotape on technology used in various jobs. Tour a community facility to see how computers are used (optional).
4. Following a visit by the community helper (or video or tour) have students tell what they learned about how community helpers use computers in their jobs.
5. Have students draw a picture to illustrate how community helpers use computers to do their work. Have each student describe to the class what is happening in their picture.
6. Display each child's work.

Measure

Prepare a handout for each student with a picture of a community helper using technology. Have each student write a one sentence description of the picture.

Objectives Addressed by This Lesson

Social Studies: (Gr. 2)
6.1 Identify examples of change in neighborhoods.
6.2 Analyze the effects of change in a given neighborhood or community.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.

Computer Skills: (Gr. 2)
1.1 Identify uses of technology in the community.

Societal Impact

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum 2

Title: What Does It Mean?
Grade: 2
Competency 1.1: Identify the uses of technology in the community.
Measure 1.1.2: Find examples of computerized information (e.g., grocery store tape, bar code label, receipt) from community sources. Place these on a classroom bulletin board.

Objectives Addressed by This Lesson

Social Studies: (Gr. 2)
6.1 Identify examples of change in neighborhoods.
6.2 Analyze the effects of change in a given neighborhood or community.
6.3 Predict logical future changes.
9.2 Compare physical and human characteristics of neighborhoods.
10.3 Define income and identify different sources on income in neighborhoods.
10.5 Distinguish between goods produced and services provided in neighborhoods.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.

Computer Skills: (Gr. 2)
1.1 Identify the uses of technology in the community.

Materials Needed: Develop a collection of examples of computerized information (e.g., grocery store tape, bar code label, receipt) from community sources.

Time: Two, fifteen minute sessions; repeat as necessary.

Activities

Pre-Activities:
1. Prepare a bulletin board space for examples of computerized information.

Activity:
1. Show students examples of computerized information (e.g., grocery store tape, bar code label, receipt) from community sources.
2. Explain what the computerized information (e.g., grocery store tape, bar code label, receipt) represents.
3. Have each student bring examples of computerized information to class for a discussion.
4. Have students tell where the item came from and what the information represents.
5. Have each student place their examples on the prepared bulletin board.

Measure
Have each student point to one of the computer information examples on the bulletin board and tell what it represents.

What Does It Mean?		
Samples	**Computerized Information**	**Represents**
	Bar Code Labels	**Machine readable numbers for a particular item**
	Grocery Tape	
	Sales Receipts	
	Video Check-out List	

Societal Impact

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum 3

Title: Community Technologies in Our Lives
Grade: 3
Competency 1.1: Identify the ways technology has changed the lives of people in the community.
Measure 1.1.1: Draw a "before" and "after" picture of a way technology has changed a community. Write a short description of each illustration.

Materials Needed: Paper, crayons, graphic/drawing software (optional).

Time: Three, twenty minute sessions.

Activities

Pre-Activities:
Teacher Preparation

1. Generate ideas on how technology has affected the lives of individuals and how it has affected life in the community.
2. Prepare sample interview question(s) for the students to discuss and select.

Activity:

1. As a class, list the technology that is used everyday (e.g., personal computer, microwaves, VCRs, cable TV, Nintendo).
2. Using the technology items listed, discuss how lives have been changed. For example: children in the 1980's played board games; now children play Nintendo or Game Boy.
3. Have students discuss sample questions to interview an adult (e.g., school secretary, parent, grandparent,) about two ways technology has changed community life.
4. Have students explain their findings.
5. Assign each student to draw a "before" and an "after" picture to illustrate how technology has changed community life. Display their work.

Measure

Have students envision future game technology and express their thoughts by writing and illustrating a paragraph about how games will be played in the year 2010. (Word process if possible).

Objectives Addressed by This Lesson

Social Studies: (Gr. 3)
2.1 Distinguish similarities and differences among children at different times and in different places.
2.1 Analyze similarities and differences among families in different times and in different places.
2.3 Assess similarities and differences among communities in different times and in different places.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, sythesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.

Computer Skills: (Gr. 3)
1.1 Identify the ways technology has changed the lives of people in the community.

Societal Impact

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum 4

Title: How Technology Has Changed Life in North Carolina
Grade: 4
Competency 1.1: Identify the ways in which technology has changed the lives of people in North Carolina.
Measure 1.1.1: Write a paragraph or journal/diary entry describing what life in North Carolina would be like without computer technology (e.g., microcomputers, microwaves, VCRs, cable TV, Nintendo, weather forecasting devices).

Objectives Addressed by This Lesson

Social Studies: (Gr. 4)
1.3 Analyze similarities and differences among North Carolina's people, past and present.
10.3 Evaluate the influence of discoveries, inventions, and technological innovation on economic interdependence.
11.1 Identify and describe changes which have occurred in ways of living in North Carolina.
11.3 Evaluate the effects of change on the lives of people of North Carolina.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, sythesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.
2.1 The learner will explore research processes that meet information needs.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 4)
1.1 Identify the ways technology has changed the lives of people in North Carolina.

Materials Needed: Several calculators, pencils, paper, textbooks, and other resources on North Carolina, and a copy of the Effect of Technology on North Carolina People chart for each student (Chart Gr. 4.1.1).

Time: Three, thirty minute sessions; continue as needed to complete work.

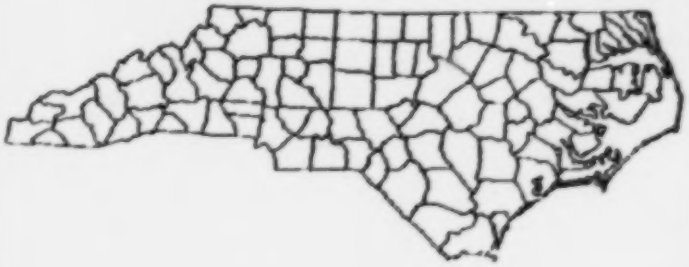
Activities

Pre-Activities:
With the Media Coordinator
1. Plan what resourses the class can use to discover North Carolina industries (e.g., farming, poultry, dairies, manufacturing) that have changed significantly because of technology.
2. Identify North Carolina industries that have been created because of technology (e.g., video machines, satellite dish, printing, cable TV, home shopping).

Activity:
1. For a mathematics activity, allow one group of students to use calculators to complete the assignments while the other students use only pencil and paper. Discuss any differences that occurred such as time, answers, and process used.
2. Discuss how technology affects the way people do their work.
3. Divide the class into small groups of 3 or 4 students.
4. Assign students to work as a team to research how technology has affected either home, business or industry and complete the data collection sheet entitled Effects of Technology on North Carolina People.
5. Have each student use information from the data collection sheet to develop a report. (Word process if possible.)
6. Ask each student to deliver an oral presentation to the class on the information on his/her data collection sheet.

Measure
Using a word processing program, create a journal entry describing what life in North Carolina would be like without computer technology (e.g., microcomputers, microwaves, VCRs, cable TV, Nintendo, weather forecasting devices).

Societal Impact



Effect of Technology on North Carolina People

Describe how North Carolina people did work before 1980.

1.
2.
3.
4.
5.

How has technology changed the way North Carolina people work in _____ since 1980.

1.
2.
3.
4.
5.

List results of changes.

1.
2.
3.
4.
5.

Identify new areas created by technology.

1.
2.
3.
4.
5.

ISSUES
SKILLS
APPLICATION

Objectives Addressed by This Lesson

Social Studies: (Gr. 4)
1.3 Analyze similarities and differences among North Carolina's people, past and present.
10.3 Evaluate the influence of discoveries, inventions, and technological innovation on economic interdependence.
11.1 Identify and describe changes which have occurred in ways of living in North Carolina.
11.3 Evaluate the effects of change on the lives of people of North Carolina.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, sythesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.
2.1 The learner will explore research processes that meet information needs.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (4)
1.2 Identify computers as tools for accessing informaiton.

Computer Skills Curriculum

4

Title: Computers Help Us Get Information
Grade: 4
Competency 1.2: Identify computers as tools for accessing information.
Measure 1.2.1: Describe examples of people using computers to access information in daily life (e.g., teachers looking up grades from office computers, bank customers getting information from bank machines, students finding books from online catalogs, travel agents reserving airline tickets).

Materials Needed: Samples of school computer printouts, slips of paper with a location on each, and a copy of the handout for each group of students.

Time: Three, twenty minute sessions.

Activities

Pre-Activities:
1. Request from appropriate school personnel sample printouts of computer data from SIMS (Student Information Management System), online card catalog, office, and cafeteria.

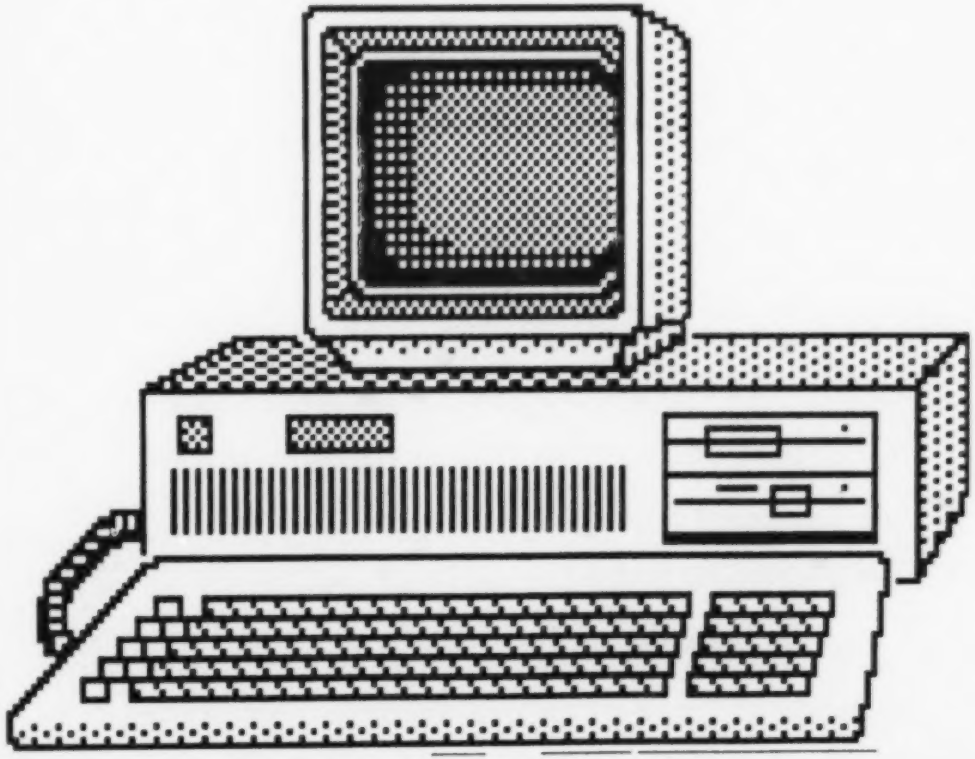
Activity:
1. Use a collection of school computer data printouts as a focal point for discussion of kinds of information kept in demographic records and discuss how the computer is used to access this information.
2. Discuss and list types of information accessed from a school SIMS report (e.g., last name, first name, sex, homeroom, bus number, phone number, emergency information).
3. Brainstorm additional information that may be accessed from computers (e.g., bank balances, prices for items in a store, hotel check-out information, video check-out, weather information).
4. Divide the class into groups of 3 or 4 students.
5. Provide each group a copy of the handout "I'm a_____Computer." Let one member of the group draw from a pile of slips naming different computer locations: home, weather station, airline reservation office, bank, video store, library, grocery store stockroom, etc.
6. Instruct the students to record the type of computer they drew on the handout and then decide as a group what type of information might be on that computer screen.
7. Have them fill in the handout with a sample of this information.
8. After each group tells about their computer, display the handouts in the room.

Measure
Have each student list five or more examples of accessing information from a computer in daily life and explain how the informtion benefits the user.

Societal Impact

I'm a _____ Computer.

Ask me questions on ...



_____

_____

_____

_____

_____

_____

Gr. 4 1.2.1

ISSUES
SKILLS
APPLICATION

Objectives Addressed by This Lesson

Social Studies: (Gr. 4)
1.3 Analyze similarities and differences among North Carolina's people, past and present.
10.3 Evaluate the influence of discoveries, inventions, and technological innovation on economic interdependence.
11.1 Identify and describe changes which have occurred in ways of living in North Carolina.
11.3 Evaluate the effects of change on the lives of people of North Carolina.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, sythesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.
2.1 The learner will explore research processes that meet information needs.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 4)
1.2 Identify computers as tools for accessing information.

Computer Skills Curriculum

4

Title: Computer as an Information Tool
Grade: 4
Compentency 1.2: Identify computers as tools for accessing information.
Measure 1.2.2: Describe two types of information from distant databases that you would like to access using a computer.

Materials Needed: Information on online databases from the media coordinator.

Time: Three, twenty minute sessions for one week.

Activities

Pre-Activities:
With the Media Coordinator
1. Arrange to present information about online databases (e.g., Dow Jones, DIALOG, Internet, Learning Link, FrEdMail) and the kinds of information available to the class.

Activity:
1. With the media coordinator, present sample information from online databases and discuss the types of information (e.g., weather, travel, movies, books) available.
2. Brainstorm to identify two types of information from distant databases that students would like to access about a foreign country (e.g., sites of interest, weather, currency exchange, travel arrangements) to compare to the same type of information about North Carolina.
3. Have students suggest how and why a computer would be helpful in accessing this information about both the foreign country and North Carolina.
4. Divide the students into three groups. Assign each group to create a rap or Haiku to illustrate information they might get from an online database..

   Example:
   My name is_____
   And what I'd like to know
   What's the price of a hamburger?
   In the land of_____
   Tell your computer
   And he'll tell mine very fast
   I'll plan my order
   I'd like two, to go.

5. Have each group present their rap or haiku verses to the class.

Measure
Have each student list two types of information from distant databases that could be accessed using a computer and describe how the data will benefit the user.

Societal Impact

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

5

Title: Influence of Technology on Life in the United States
Grade: 5
Competency 1.1: Describe the influence of technology on life in the United States.
Measure 1.1.1: Make a collage showing examples of technology in the United States.

Materials Needed: Magazines, books, videos, newspapers, catalogs, paper, glue, scissors, markers, a large outline map of the United States.

Time: Two, twenty minute sessions.

Activities

Pre-Activities:
Teacher Preparation

1. Select materials (newspapers, catalogs, magazines, books, and videos) that identify and describe the use of technology in the United States.
2. Develop a display of resource materials.
3. Create a bulletin board with an outline map of the United States and a title of INFLUNCE OF TECHNOLOGY ON LIFE IN THE UNITED STATES.

Activity:

1. Provide the students an opportunity to examine the materials on display.
2. Brainstorm and develop a list of current technologies in the United States (e.g., computers, supercomputers, fiber optic cable, satellites, laserdiscs, FAX, laptops, computerized equipment, touch tone phones, space shuttle).
3. Lead the students in discussing how the technologies on the list have influenced life in the United States.
4. Have students clip pictures of current technologies from newspapers and surplus magazines to make a collage to fill in the map of the United States on the bulletin board.

Measure
Using word processing software, have each student write a paragraph identifying three technology items in the collage and explain how these technologies have changed life in the United States.

Objectives Addressed by This Lesson

Social Studies: (Gr. 5)
6.1 Analyze the movement of people, goods, and ideas within and among the countries of the United States, Canada, and Latin America and between the Western Hemisphere and other places.
10.3 Evaluate the influence of discoveries, invention, and innovations on economic interdependence.
11.3 Evaluate the effects of change on the lives of the people of the United States, Canada, and Latin America.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, sythesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.
2.1 The learner will explore research processes that meet information needs.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 5)
1.1 Describe the influence of technology on life in the United States.

Societal Impact

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

5

Objectives Addressed by This Lesson

Social Studies: (Gr. 5)
10.2 Assess causes and effects of increasing economic interdependence.
10.3 Evaluate the influence of discoveries, invention, and innovations on economic interdependence.
11.3 Evaluate the effects of change on the lives of the people of the United States, Canada, and Latin America.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, sythesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.
2.1 The learner will explore research processes that meet information needs.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 5)
1.1 Describe the influence of technology on life in the United States.

Title: Technology Brings Changes
Grade: 5
Competency 1.1: Describe the influence of technology on life in the United States.
Measure 1.1.2: Make a timeline showing technological inventions and discuss how these events have changed life in the United States.

Materials Needed: Sources such as an online card catalog, CD-ROM encyclopedias, and print encyclopedias; list of technology inventions; prepared CURRENT TECHNOLOGY (Chart Gr. 5 1.1.2).

Time: Five, thirty minute sessions.

Activities

Pre-Activities:
With the Media Coordinator
1. Plan what resourses the class can use to discover information on current technologies (e.g., microcomputers, supercomputers, fiber optic cable, satellite, laserdiscs, FAX, interactive multimedia) in the United States.

Activity:
1. Develop a display of resource materials and give students an opportunity to examine and become familiar with these materials (in the classroom or media center).
2. Divide the class into small groups of 3 or 4 students.
3. Give each student a copy of the Current Technology data collection sheet.
4. Have the students in each group work as a team to research an assigned current technology (i.e., microcomputers, supercomputers, fiber optic cable, laserdiscs, FAX, interactive multimedia, interactive television) and investigate how this technology has affected life in the United States.
5. Assign each team to complete the data collection sheet for their topic and report the findings to the class.
6. As each group reports on their topic, have each of the other students fill in information on his/her individual Current Technology sheet.
7. Using the data collection sheet as a focal point, discuss the sequence of development of these technologies and any relationships or interdependence. Focus on developments in the United States during the 1980's and 1990's.

Measure
Have each student develop a timeline of important events in technology and write a paragraph describing how these events and inventions have changed life in the United States during the 1980's and 1990's.

Societal Impact

CURRENT TECHNOLOGY

Invention	Date	How This Technology Is Used
Microcomputer		
Supercomputer		
Fiber Optic Cable		
Laserdisc		
FAX		
Interactive MultiMedia		
Interactive Television		

Chart Gr. 5 1.1.2

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

5

Title: Current Information
Grade: 5
Competency 1.2: Identify computers as tools for accessing current information.
Measure 1.2.1: Describe the advantages of obtaining news from a computer accessible news service vs. from a daily newspaper.

Materials Needed: Daily newspaper, and videotape footage of CNN News coverage morning and evening of the same day. Samples of information from an online information service; a bulletin board entitled CURRENT INFORMATION.

Time: Three, thirty minute sessions.

Activities

Pre-Activities:
With the Media Coordinator

1. Arrange for the media coordinator to review with students the benefits of an automated library system and identify online information services focusing on those that are available to your school. Provide examples of information obtained from sources (e.g., Dow Jones, AT&T, FrEdMail, Learning Link).
2. Ask the media coordinator to videotape CNN News in the morning and again in the evening of a particular day.

Activity:

1. Develop a bulletin board of sample materials from online information services and give students an opportunity to examine and become familiar with these materials.
2. After the media coordinator makes a presentation about online information services and identifies examples of such services, have students discuss and list the benefits and the pitfalls of such access.
3. Using the daily newspaper, identify the lead stories of a particular day.
4. View videotape of morning CNN coverage and evening coverage and identify the top stories and determine if and how the coverage has been updated from the morning to evening. Help students understand how the stories can be updated throughout the day by news services such as CNN.
5. Have students compare and determine which source contains the most current information and explain why this is possible.
6. Have students discuss advantages of accessing the information via telecommunications vs. the daily newspaper. Also have students identify problems that might arise as a result of instant access to information. For example: election results from one area being reported before the polls close in another area might influence whether or how later voters cast their votes.
7. Discuss the impact of current information received by telecomputing on the decision- making process. (Example: current weather predictions as opposed to printed (yesterday) weather report.)
8. List the advantages offered by online news sources and online databases.

Measure

Have students write a paragraph detailing the differences between information from an online news service and information from a daily newspaper.

Objectives Addressed by This Lesson

Social Studies: (Gr. 5)
6.1 Analyze the movement of people, goods, and ideas within and among the countries of the United States, Canada, and Latin America and between the Western Hemisphere and other places.
10.3 Evaluate the influence of discoveries, invention, and innovations on economic interdependence.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.
2.1 The learner will explore research processes that meet information needs.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 5)
1.2 Identify computers as tools for accessing current information.

Societal Impact

ISSUES
SKILLS
APPLICATION

Objectives Addressed by This Lesson

Social Studies: (Gr. 5)
10.3 Evaluate the influence of discoveries, invention, and innovations on economic interdependence.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.
2.1 The learner will explore research processes that meet information needs.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 5)
1.2 Identify computers as tools for accessing current information.

Computer Skills Curriculum

5

Title: The Value of Current Information
Grade: 5
Competency 1.2: Identify computers as tools for accessing current information.
Measure 1.2.2: Discuss and write a paragraph on how accessing current database information with a computer improves the work of a pharmacist, home supply clerk, motel manager, or agricultural extension agent.

Materials Needed: Camcorder and blank tape. (optional)

Time: Two, thirty minute sessions.

Activities

Pre-Activities:

1. Arrange to obtain information from a local merchant (e.g., pharmacist, home supply store clerk, motel manager, or agricultural extention agent) about the advantages of accessing current database information.

Note: This information can be obtained in a number of ways such as: a guest speaker, having several students interview the person, and/or videotaping the comments of a local merchant.

Activity:

1. Present to the class information from a pharmacist, home supply clerk, motel manager, or agriculture extension agent about the advantages of accessing current database information.
2. Discuss the impact of current information from a database on the decision-making process for one of these individuals: pharmacist, home supply store clerk, motel manager, or agriculture extention agent.
3. Have students draw a before and after cartoon depicting the changes brought about by access to current information in a particular job and explaining how accessing current database information with a computer improves work quality.
4. Have students share their cartoons with the class and explain their meaning.
5. Have students select five cartoons that best demonstrate the change access to current information has made in the ways business is done and enlarge the cartoons to make a classroom display.

Measure

Have each student take on the personna of a pharmacist, supply store clerk, motel manager or agriculture extention agent and write a paragraph detailing how access to current information has improved the quality of the service they provide to their customers.

Societal Impact

ISSUES

SKILLS

APPLICATION

Objectives Addressed by This Lesson

Social Studies: (Gr. 6)
6.2 Compare ways in which people, goods and ideas moved in the past in Europe including areas formerly in the Soviet Union with their movement today.
6.3 Judge how changes in the movement of people, ideas, and goods have affected ways of living in Europe including areas formerly in the Soviet Union.
10.3 Evaluate the influence of inventions, discoveries, and innovations on economic interdependence.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, sythesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.
2.1 The learner will explore research processes that meet information needs.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 6)
1.1 Identify ways that telecomputing promotes a global community.

Computer Skills Curriculum

6

Title: Telecomputing Makes the World Seem Smaller
Grade 6
Competency 1.1: Identify ways that telecomputing promotes a global community.
Measure 1.1.1: Use the World Almanac to compare the number of telephones per capita in a variety of countries. List ways that telecomputing could affect life in these countries.

Materials Needed: World Almanac, prepared chart COMMUNICATIONS INFORMATION: NUMBER OF TELEPHONES IN USE (Chart Gr. 6 1.1.1), newspapers, magazines, poster paper, markers and graphing software.

Time: Three, thirty minute sessions.

Activities

Pre-Activities:
With Media Coordinator and Other Teachers

1. Arrange for the media coordinator to give an overview of telecomputing and a brief demonstration (simulation or video).
2. Review data on the number of telephones in specific countries in the *World Almanac* 1992 and the 1993 *World Almanac*.
3. Arrange with the math teacher to review graphing skills.
4. Become familiar with graphing software.

Activity:

1. Divide class into five small groups to locate magazine and/or newspapers articles that identify how telecommunications using a computer helps promote a global community.
2. Have each group create a poster to detail their findings. Each group shares their findings with the class using the poster as a visual to illustrate the main points and then contributes their posters to create a display entitled TELECOMPUTING MAKES THE WORLD SEEM SMALLER.
3. Pair students and give each pair a copy of the COMMUNICATIONS INFORMATION: NUMBER OF TELEPHONES IN USE chart (Chart Gr. 6.1.1.1). Have them examine and discuss the data.
4. Using graphing software have each pair of students develop graph(s) from the data to depict this information.
5. Have each pair analyze the data and draw conclusions on possible reasons the numbers changed and how this might have affected communication for each country.
6. Have pairs report their conclusions to the class, discuss as a class how telecomputing may have changed life in these countries during the 1990's and chart major conclusions of the group to add to the bulletin board display TELECOMPUING MAKES THE WORLD SEEM SMALLER.

Measure
Shown a transparancy of a graph of the number of telephones per capita for the countries in the activity, have students list ways that if a computer were attached to the telephone, telecomputing could affect life in these countries.

Societal Impact

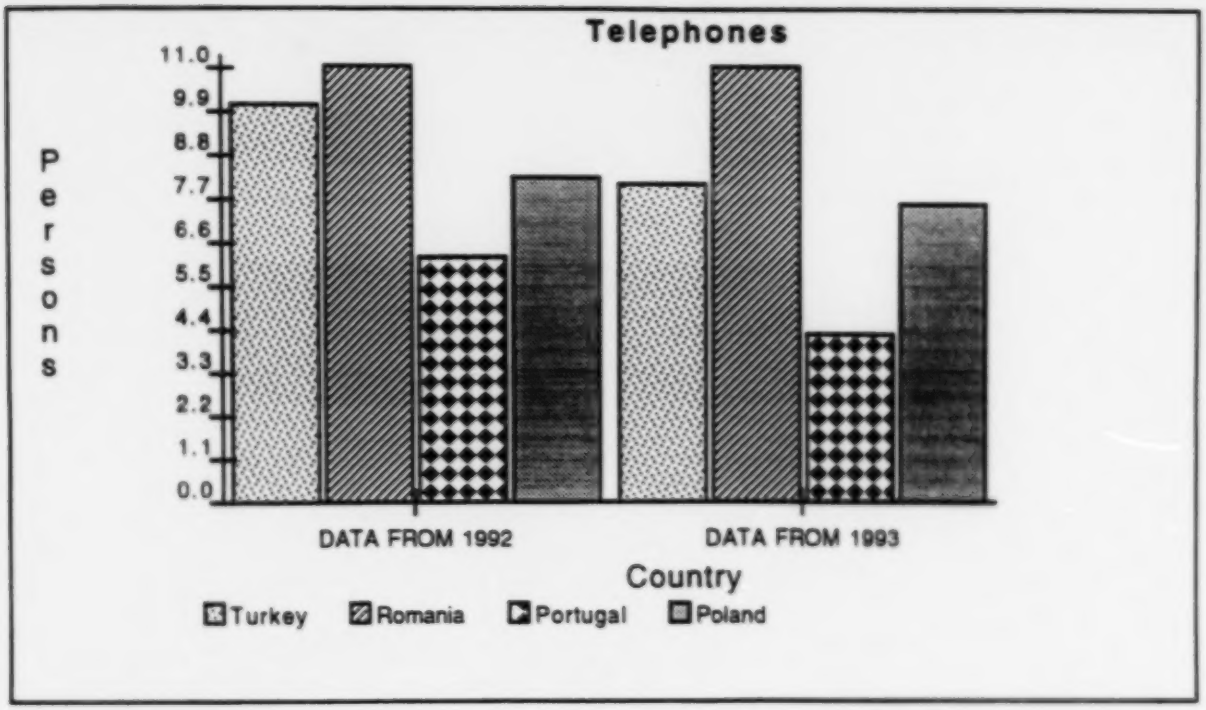
Communications Information: Number of Telephones in Use

Use the *World Almanac* data in the chart below to investigate the growth of telephone use per capita in other countries.

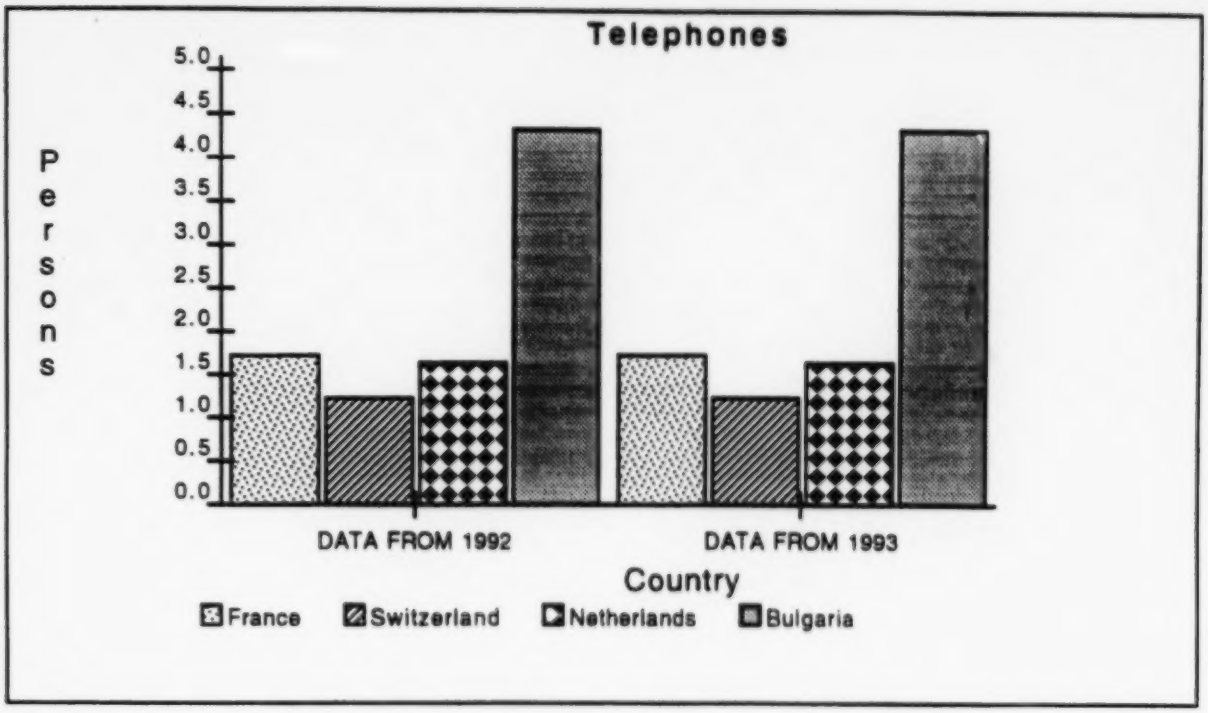
Country	* Data from 1992 *World Almanac*	* Data from 1993 *World Almanac*
France	1 per 1.7 persons	1 per 1.7 persons
Switzerland	1 per 1.2 persons	1 per 1.2 persons
Netherlands	1 per 1.6 persons	1 per 1.6 persons
Bulgaria	1 per 4.3 persons	1 per 4.3 persons
Turkey	1 per 10 persons	1 per 8 persons
Romania	1 per 11 persons	1 per 11 persons
Portugal	1 per 6.2 persons	1 per 4.2 persons
Poland	1 per 8.2 persons	1 per 7.5 persons

*** Note: This data was collected from the Nations Section, under Communications by individual country in the 1992 and 1993 *World Almanac*.**

Chart Gr. 6 1.1.1



Graph Gr. 6.1.1.1



Graph Gr. 6.1.1.1

ISSUES
SKILLS
APPLICATION

Objectives Addressed by This Lesson

Social Studies: (Gr. 6)
6.2 Compare ways in which people, goods and ideas moved in the past in Europe including areas formerly in the Soviet Union with their movement today.
6.3 Judge how changes in the movement of people, ideas, and goods have affected ways of living in Europe including areas formerly in the Soviet Union.
10.3 Evaluate the influence of inventions, discoveries, and innovations on economic interdependence.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, sythesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.
2.1 The learner will explore research processes that meet information needs.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 6)
1.1 Identify ways telecomputing promotes a global community.

Computer Skills Curriculum

6

Title: **Breaking Down the Walls**
Grade **6**
Competency 1.1: **Identify ways telecomputing promotes a global community.**
Measure 1.1.2: **Given a list of topics (e.g., news, research, disaster relief, sports, banking, education) create a word processed report on how telecomputing can affect that topic.**

Materials Needed: World Almanac, examples of information from bulletin board services (e.g., FrEdMail, Dow Jones, AT&T); magazines, newspapers, print and CD-ROM encyclopedias. Sample news articles provided.

Time: Three, thirty minute sessions.

Activities

Pre-Activities::
With Media Coordinator
1. Determine telecomputing opportunities available at your school.
2. Arrange for the media coordinator to demonstrate or simulate going "online" to locate information.
3. Identify and select sample data from various online resources (e.g., Dow Jones, FrEdMail, AT&T) and create a display entitled BREAKING DOWN THE WALLS. (Telecomputing allows the user to access information from a great variety of resources beyond the walls of the school building.)
4. Locate news articles on how telecomputing can impact society. (Examples provided.)

Activity:
1. Use the BREAKING DOWN THE WALLS theme to discuss sample data from various online resources (e.g., Dow Jones, FrEdMail, AT&T).
2. Have the media coordinator demonstrate or simulate going online to locate data on a current global topic (e.g., news, research data, disaster relief information, environmental information, sports data, banking information, or information about education in another place).
3. Group students and have them conduct research on how telecomputing is used in one of these topics. They might use the online resource, news articles, or video materials.
4. Have groups report their findings to the class by identifying ways telecomputing is affecting their topic and promotes a global community.

Measure
Have each student develop a report that identifies changes that telecomputing has made during the 1990's in one or more of the fields of news, research, disaster relief, sports, banking, and education to promote a global community.

Societal Impact

THE NEWS & OBSERVER
THURSDAY, MARCH 10, 1994

WAKE METRO

B

Postal Service challenged by ease, efficiency of e-mail

BY RUTH SHELTON
STAFF WRITER

Several years ago, Cliff Allen sent one of his clients a copy of an advertisement through the mail. The U.S. mail, that is.

After four days, it still hadn't made the trip from Raleigh to Cary.

"I don't mean this as a slam on the Postal Service, but I finally had to drive it over," said Allen, the owner of Allen Marketing, a public relations firm for computer companies.

No wonder computer folk call it snail mail. And no wonder more and more people are abandoning stamped envelopes and letter carriers in favor of electronic mail, e-mail for short, or messages sent almost instantly from computer to computer via telephone, cables and satellite anywhere in the world.

So while the Postal Service is trying to push prices up, with a proposed 3 cent hike on first class stamps, the number of people using its service is going down, down, down.

Fact is, though the number of people "on line" is still relatively small, the volume of e-mail, along with use of fax machines and telephones, is crushing the U.S. Postal Service's monopoly on first class communication.

Especially e-mail, the newest, fastest growing mail alternative, said Raleigh Postmaster Leonard Gardner.

"Electronic mail has made an impact nationally, and it's made an impact here," said the 31-year postal veteran. "Fifteen years ago, we had 100 percent of the first class mail service; now we handle only 65 percent of that service.

"And with the growth in technology, we expect our share of first class service to erode to 35 percent by the year 2000."

The decline has been -- and is expected to be -- so dramatic that U.S. Postmaster General Marvin Runyon is pushing the Postal Service to get into the electronic mail business itself.

"Twenty or 30 years ago, we took everything for granted," said Gardner. "Times are changing. Right now, as an organization we are vulnerable."

Jay Cadmus, a spokesman for IBM, likened the Postal Service to the railroad industry, which experienced a dramatic downturn because it refused to see itself as part of a broader transportation industry.

The Postal Service, similarly, needs to see itself as part of the communications industry, Cadmus said.

Cadmus' work habits are good evidence.

The media relations officer says he sends up to 90 percent of his non-IBM correspondence by e-mail.

"I think it primarily replaces hand mail," Cadmus said. "Obviously it's a lot faster. If I need to send a note to somebody in New York, or in England, I hit a button and it's there. The other person doesn't have to go to a mail slot, or wait by a fax machine. And I can get a response almost instantaneously."

That's why a growing number of

Electronic mail is not much like mail at all.

Though it can take the place of standard letters and written faxes, e-mail is sent from computer to computer on electronic pulses. Unlike standard mail, it moves across phone and cable lines, and via satellite, almost instantaneously, to a co-worker's computer across the room or on the other side of the globe.

For many workers, in-house computer systems allow employees to send messages, memos and documents.

But a personal computer with a modem allows anyone to buy access to international computer networks, such as Internet, CompuServe and America Online, for about $9 a month. The networks make it possible to communicate with other computer users almost anywhere in the world one on one or in groups that monitor certain bulletin boards.

Reprinted by permission of The News & Observer of Raleigh, North Carolina

THE NEWS & OBSERVER
THURSDAY, FEBRUARY 24, 1994

Pen-based computers aid disaster workers

BY L. A. LOMICK
FORT LAUDERDALE SUN-SENTINEL

FORT LAUDERDALE, Fla. — In the information age, even disasters have gone high tech with the aid of Fort Lauderdale based UCS Inc.

Since the Los Angeles earthquake last month, UCS employees have been working 12- to 15-hour days filling orders for pen based computer tablets equipped with specialized software.

"We haven't gotten much sleep," said Bob Nelson, UCS vice president.

UCS developed the software for the Federal Emergency Management Agency so that building inspectors could easily assess damages during disasters and file reports from the field. FEMA handles federal emergency funds and issues homeowners disaster relief checks based on need.

With 4.5-pound GridPad computers, made by AST Corp., and software from UCS, building inspectors work faster and more efficiently, said Scott Martin, chief of FEMA's disaster housing branch, based in Washington.

The high tech system has saved FEMA $5.4 million in administrative expenses, Martin said. The software cost $1-million to develop and $3 million for computers, which cost $2,100 each, and training, he said.

The computers can be strapped onto an inspector's arm with a wristband, and information can be instantly entered onto an electronic form by touching a computer pen to the tablet. Once a report is complete, the information is sent to FEMA's main office via the computer's modem — a device that transmits information over the telephone lines.

UCS's software lets FEMA inspectors create a drawing of the house they are inspecting on the computer screen. It has a built in calculator that helps assess square footage, and its built in pricing system tracks the area's real estate prices.

Before the automation, FEMA took up to 21 days to process a claim for disaster-related damages. Now, it takes as little as three days from the time the agency receives an application until the time it mails a check.

"It may not sound right to have a government official express pleasure with a contractor, but UCS has done their utmost to meet all the critical demands that disaster has placed on them," Martin said. "By helping us, they're also helping the victims."

UCS president Ozzie Ramos and 20 UCS employees have been in California since the earthquake hit Jan. 17. Most of their time has been spent training building inspectors to operate UCS software and pen based computers. The training takes less than a day.

More than 1,300 pen based computers are being used in the Los Angeles area with orders for 200 more, Martin said. The earthquake requires more than twice the number of inspectors as Hurricane Andrew in Miami, Martin said. FEMA inspectors will be in the field at least six months assessing the damages, Martin said. Overall, Los Angeles earthquake damages have been estimated at more than $30 billion with extensive damage to highways, buildings and homes.

UCS has been developing software for FEMA since 1991, Nelson said. The company's initial contract was for $5 million, but that has grown as UCS has supplied additional software, equipment and training as one natural disaster after another has struck different regions of the United States, Nelson said.

UCS software has been used in the California wildfires and the Midwest floods in 1991. The computers were being field tested during Hurricane Andrew and were not being used in full force.

UCS employees program the pen based computers with software designed with pricing and maps for any region in the United States, Nelson said. The company has a field office in Denver and Washington.

UCS, a privately owned firm, was founded in 1984 by a group of former Motorola executives. The company initially worked as an original-equipment manufacturer for Motorola. It got involved in the developing pen based software in 1989 and has since won several government contracts.

In addition to FEMA, the company does work for the Census Bureau, the Federal Bureau of Investigation and other government agencies.

Reprinted with permission from the Sun-Sentinel, Fort Lauderdale, Florida.

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

6

Title: Electronic Mail
Grade 6
Competency 1.1: Identify ways that telecomputing promotes a global community.
Measure 1.1.3: Participate in an exchange of electronic mail with students in a foreign country via telecomputing project. Survey student attitudes and knowledge about the country before and after the exchange.

Materials Needed: Word processing software, bulletin board entitled THINGS WE THINK WE KNOW ABOUT STUDENTS OUR AGE IN _____.

Time: Five, thirty minute sessions.

Activities

Pre-Activities:
With Media Coordinator

1. Review the availability in the media center of telecomputing opportunities with foreign countries.
2. Establish times to send and receive electronic mail with a group in another country.

Activity:

1. Have media coordinator demonstrate how messages can be sent to other locations and show a list of locations available.
2. As a group identify a distant audience and generate a list detailing THINGS WE THINK WE KNOW ABOUT STUDENTS OUR AGE IN _____.
3. As a class brainstorm the kinds of questions that would be interesting and appropriate to ask other students who are the same age in another part of the world.
4. Place students in small groups to develop five survey questions they would like to ask sixth grade students at that location. Have students select the best ten to fifteen questions for the survey.
5. Use a word processing program to create a text file to be telecomputed to students in another country. Send the file to the group in the other country.
6. After students collect and analyze survey responses, discuss how the responses confirmed or disproved the class' ideas about students in this country. Make corrections on the chart.
7. As a class discuss the impact this telecomputing experience has had on previous ideas and attitudes about students from another country.

Measure
Have students create a cartoon or skit depicting what they learned from their telecomputing experience.

Objectives Addressed by This Lesson

Social Studies: (Gr. 6)
6.2 Compare ways in which people, goods and ideas moved in the past in Europe including areas formerly in the Soviet Union with their movement today.
6.3 Judge how changes in the movement of people, ideas, and goods have affected ways of living in Europe including areas formerly in the Soviet Union.
10.3 Evaluate the influence of inventions, discoveries, and innovations on economic interdependence.

Communication Skills
1.1 The learner will apply preparation strategies to comprehend or convey experiences and information.
1.2 The learner will apply engagement strategies to comprehend or convey experiences.
2.1 The learner will identify, collect, or select information and ideas.
2.2 The learner will analyze, sythesize, and organize information and discover related ideas, concepts, or generalizations.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.1 The learner will explore reading, listening, viewing sources and formats.
1.4 The learner will relate ideas and information to life experiences.
1.5 The learner will communicate reading, listening, and viewing experiences.
2.1 The learner will explore research processes that meet information needs.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 6)
1.1 Identify ways that telecomputing promotes a global community.

Societal Impact

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

7

Title: Technology and the World of Work
Grade: 7
Competency 1.1: Identify the role of technology in a variety of careers.
Measure 1.1.1: Survey two to five adults who use technology in their jobs to determine how they use it. Display the data in a class chart.

Materials Needed: Bulletin board, blank file cards, paper for survey forms, and graphing software.

Time: Five, thirty minute sessions.

Activities

Pre-Activities:
With Students

1. Brainstorm a list of current technologies used in the workplace (e.g., word processing programs, desktop publishing, FAX, electronic mail, CAD-CAM). Place the technology name and (if possible) a job example of each technology on a piece of paper or blank file card and mount on a bulletin board.
2. Brainstorm and develop survey questions, to ask adults about use of technology in their job.

Activity:

1. Have students survey two to five adults who use technology in their jobs to determine which technologies they use and how they use it.
2. Have students share their survey results and describe the advantages of using these technologies in the workplace.
3. Use the survey data to make cards to include such fields as: job title, job type, technologies used, and benefits of technology. Arrange these cards on a bulletin board.
4. Have students use the bulletin board "database" to analyze trends (e.g., more women use word processing programs) and develop various possible trends.
5. Work with students to chart and display survey findings using graphing software.
6. After a class discussion of the trends and survey findings, have each student compose a newspaper headline which reflects the trends and findings.

Measure

Given a list of five jobs, describe how technology is used in each job.

Objectives Addressed by This Lesson

Vocational Education: (Gr. 6-8)
Business/Marketing
2.02 Explain the impact of technology on business activities.
2.04 Explain employment trends in business.
4.01 Investigate the current career opportunities in information systems.
4.02 Assess the education, experience and other requirements for a career in information systems.
4.04 Evaluate personal options in pursuing a career in information systems.
5.04 Explain the uses of computers in accounting and financial services.
6.06 Evaluate personal options in pursuing a career in an accounting or financial occupation.
7.03 Explain the use of computers by administrative support personnel.
9.03 Explain the use of computers in marketing.
11.03 Explain the use of computers by managers.
13.05 Explain the use of computers by entrepreneurs.

Social Studies: (Gr. 7)
10.3 Evaluate the influence of inventions, discoveries, and innovations on economic interdependence.

Communication Skills
2.1 The learner will identify, collect, or select information and ideas.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.4 The learner will relate ideas and information to life experiences.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 7)
1.1 Identify the role of technology in a variety of careers.

Societal Impact

ISSUES
SKILLS
APPLICATION

Objectives Addressed by This Lesson

Vocational Education: (Gr. 6-8)
Business/Marketing
2.02 Explain the impact of technology on business activities.
2.04 Explain employment trends in business.
4.01 Investigate the current career opportunities in information systems.
4.02 Assess the education, experience and other requirements for a career in information systems.
4.04 Evaluate personal options in pursuing a career in information systems.
5.04 Explain the uses of computers in accounting and financial services.
6.06 Evaluate personal options in pursuing a career in an accounting or financial occupation.
7.03 Explain the use of computers by administrative support personnel.
9.03 Explain the use of computers in marketing.
11.03 Explain the use of computers by managers.
13.05 Explain the use of computers by entrepreneurs.

Social Studies: (Gr. 8)
11.2 Evaluate the importance of technological innovations and advances on quality of life in North Carolina and the nation.

Communication Skills
2.1 The learner will identify, collect, or select information and ideas.
2.3 The learner will apply, extend, and expand on information and concepts.

Information Skills
1.4 The learner will relate ideas and information to life experiences.
2.2 The learner will engage in a research process to meet information needs.

Computer Skills: (Gr. 8)
1.1 Identify technological skills required for various careers.

Computer Skills Curriculum

8

Title: Technology Skills Needed for Work
Grade: 8
Competency 1.1: Identify technological skills required for various careers.
Measure 1.1.1: Assume the role of "boss" in a business or professional firm. List technological skills necessary for workers in the firm.

Materials Needed: ***Occupational Outlook Handbook*** (Vocational Dept.), word processing software, graphics/desktop publishing software, and newspaper want ads. Online job database (Optional).

Time: Three, thirty minute sessions.

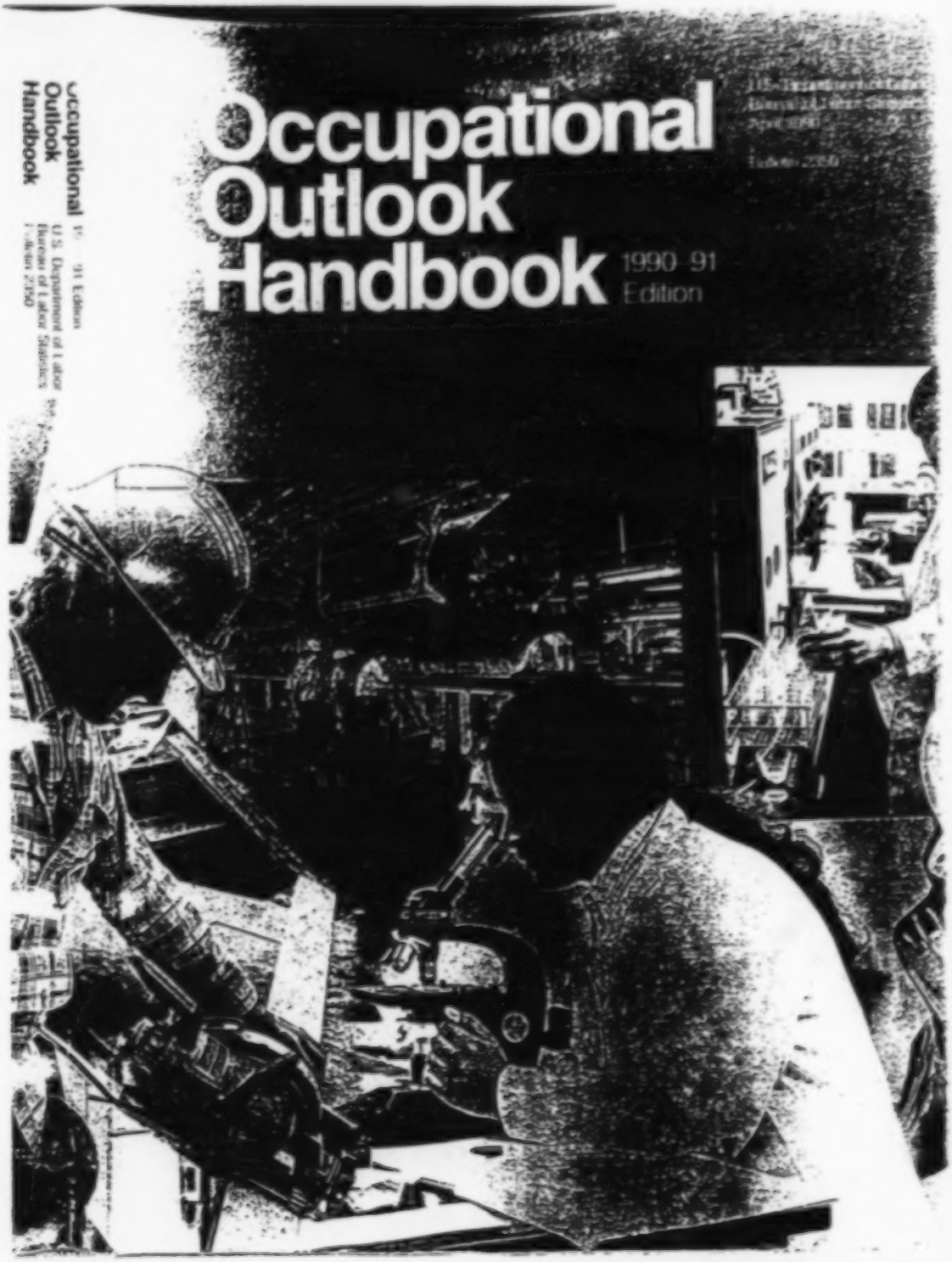
Activities

Pre-Activities:
With Students
1. Coordinate with the vocational teacher to locate job descriptions and use the ***Occupational Outlook Handbook***.

Activity:
1. Have groups of 4 or 5 students use the ***Occupational Outlook Handbook*** to choose a job cluster (e.g., business, agriculture, care givers). Each group member will select one type of worker and determine the technological skills needed by that worker.
2. Provide the groups time to research the job cluster they have selected.
3. In class give students newspapers to clip help wanted ads from the classified section of the newspaper and use for a discussion on skills required for employment in their job cluster.
4. Discuss the data gathered from the job descriptions in the classified section.
5. Have each student use a word processing program and graphics or desktop publishing software to create a job description listing the technological skills needed for their worker.
6. Assign students to use online resources to research job skills projected to be in high demand in the future and report on skills most in demand by employers. (optional)

Measure
Have each student assume the role of "boss" in a business or professional firm to write a description of the business or firm in terms of the work performed and list the technological skills necessary for workers to perform.

Societal Impact


Occupational Outlook Handbook
1990-91 Edition
Occupational Outlook Handbook
U.S. Department of Labor
Bureau of Labor Statistics